

## **REMARKS**

By this Amendment, Applicants have amended claim 9 to more appropriately define the invention and added new claims 60–65 to protect additional aspects thereof. The Amendment duplicates the substance of the February 4, 2004 Amendment After Final. The February 4<sup>th</sup> Amendment, however, inadvertently omitted the status of claims 1–8 and 10–58 in the listing of claims.

In the final Office Action, the Examiner rejected claims 9 and 59 under 35 U.S.C. § 103(a) as unpatentable over Jpn. J. Appl. Phys., Vol. 31, pp. 2155-64 (1992) (“*Schadt*”). The Examiner also rejected claims 9 and 59 under the judicially created doctrine of obviousness-type double patenting over claim 3 of U.S. Patent 6,091,471 and over claim 9 of U.S. Patent 6,295,111. Because *Schadt* fails to render claims 5 and 59 obvious, Applicants respectfully traverse the rejections of these claims.

### **Amendment**

Applicants have amended claim 9 to more appropriately recite Applicants’ invention. Applicants also add new dependent claims 60–65 to ensure protection for additional aspects of the Applicants’ invention. Accordingly, claims 9 and 59–65 are pending.

### **Rejection under § 103(a)**

To establish a *prima facie* case of obviousness under §103(a), each of three requirements must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine references or modify a reference. (See MPEP § 2143.) Second, a reasonable expectation of success must exist that the proposed modification will work for the intended purpose. (See *id.*) Moreover, both of these requirements

must “be found in the prior art, not in applicant’s disclosure.” (*Id.*) Third, the reference or references, taken alone or in combination, must disclose or suggest every element recited in the claims. (See MPEP §2143.03.)

Claim 9 recites, *inter alia*:

A method of manufacturing a liquid crystal display,  
comprising the steps of:

providing a first alignment layer on a first substrate;

...

providing a second alignment layer on a second substrate;

exposing said second alignment layer to light in an oblique  
direction, such that said second alignment layer has a pretilt  
angle and a pretilt direction associated therewith, the pretilt  
angle being controlled by photo-energy . . . .

In contrast, *Schadt* discloses a liquid crystal (LC) aligning mechanism that occurs when polymerizing photopolymers with linearly polarized light. (*Schadt*, p. 2155, col. 1, ¶ 2.) *Schadt* further discloses, “The dried films were **isotropically** prepolymerized by exposure at  $\lambda \cong 320$  nm to J/cm<sup>2</sup> of unpolarized UV light.” (*Schadt*, p. 2157, col. 2, ¶ 1.) The use of isotropic prepolymerization was found to improve the aligning stability of the final films. (*Id.*) In one embodiment, a linear photopolymerization (LPP) experiment employs spin coating substrates with a PVMC solution. (*Id.*, p. 2157, col. 1, ¶ 2.) The coated substrate is dried, prepolymerized by *unpolarized* light, and the prepolymerized film is then exposed to linearly polarized UV light. (*Id.*, p. 2157, col. 2, ¶¶ 1–2.)

There is no disclosure or suggestion in *Schadt*, however, of, “exposing said second alignment layer to light in an oblique direction, such that said second alignment layer has a pretilt angle and a pretilt direction associated therewith, *the pretilt angle being controlled by photo-energy*,” as recited in claim 9.

*Schadt's* disclosure of isotropically prepolymerizing a coated substrate with *unpolarized* light to improve aligning stability is not the same as "exposing said second alignment layer to light in an oblique direction, such that said second alignment layer includes a *pretilt angle* and a *pretilt direction* associated therewith, *the pretilt angle being controlled by photo-energy*," as recited in claim 9. *Schadt* simply does not disclose or suggest at least a "pretilt angle," a "pretilt direction," or "the pretilt angle being controlled by photo-energy," as recited in claim 9.

Moreover, according to *Schadt*, "LPP-PVMC-aligning layers induce tilt dislocations which are either caused by zero surface tilt angles  $\theta_1 = \theta_2 = 0^\circ$  at the two LCD substrates and/or by splay deformations due to  $\theta_1 \cong -\theta_2$ ." (*Schadt*, p. 2161, col. 2, ¶ 3.) That is, the LPP material of *Schadt*, which the Examiner alleges corresponds to "exposing said second alignment layer to light in an oblique direction" clearly does not include a "pretilt angle" as recited in claim 9. *Schadt* also necessarily fails to disclose or suggest, "the pretilt angle being controlled by photo-energy," as recited in claim 9.

Applicants also do not agree that it would have been obvious to modify *Schadt* as alleged by the Examiner nor has the Examiner provided a factual basis to support this conclusion. At most, the Examiner alleges, "such modification to the *Schadt* would have been obvious to one [skilled] in the art as stated in the previous office action." (November 5, 2003 Office Action at 5.) Yet a bald proclamation that it would have been obvious to modify the teachings of a cited reference does not establish a *prima facie* case of obviousness.

At least because *Schadt* fails to disclose or suggest a combination including each claim element, and because there is neither any motivation to modify *Schadt* to obtain

the claimed combination, nor any reasonable expectation of success from doing so, Applicants assert claim 9 is allowable over *Schadt*. Applicants further assert claim 59 is likewise allowable at least because of its dependence from allowable claim 9. Applicants also respectfully submit that new claims 60–65 are similarly allowable because of their dependence from allowable claim 9.

**Rejection under double patenting**

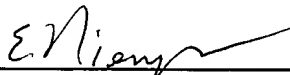
The Examiner also rejected claims 9 and 59 under the judicially created doctrine of obviousness-type double patenting over claim 3 of U.S. Patent 6,091,471 and over claim 9 of U.S. Patent 6,295,111. According to the Examiner, no Terminal Disclaimers were received with the July 21, 2003 Amendment. Without acceding to the merits of the Examiner's obviousness-type double patenting allegations, Applicants filed Terminal Disclaimers on February 4, 2004, as evidenced by the attached Terminal Disclaimers and postcard.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: April 5, 2004

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